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CORPS ARTILLERY ROLE IN AIRLAND BATTLE-FUTURE

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CORPS ARTILLERY ROLE IN AIRLAND BATTLE-FUTURE

A GROUP STUDY PROJECT

by

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TABLE OF CONTENTS

ABSTRACT

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The world environment in which the Armed Forces now operates is in the midst of dramatic changes. These changes along with a constrained budget and a declining military structure have dictated that the US Army change its warfighting doctrine. The new evolving Airland Battle-Future concept proposes real changes in the way we approach conflict. Our forces will be mostly CONUS-based, deploying to areas of interests when conflicts arise. This new concept requires that our reduced Army force be more deployable, versatile and lethal. In response to these changes in our evolving doctrine, it becomes necessary to redefine and update our fire support objectives and missions, our fire support system and the role of Corps Artillery. Additionally, changes in fire support doctrine, training, force structure, materiel and leader development are necessary to maximize our capabilities.

LIST OF FIGURES

INTRODUCTION

During the past two years, the world has experienced some dramatic changes. These changes create unprecedented situations and circumstances for the United States' government. The fall of the Berlin Wall with the dissolution of the Warsaw Pact, Operation Just Cause with the return of the democratic government to Panama, continued democratization in Latin America with strengthening economies in the Americas and Operation Desert Storm with an allied coalition dedicated to restoring the legitimate government of Kuwait; these have produced a much different environment for the United States Military forces.

About four years ago, the US Army began an effort to revise its warfighting doctrine to provide for an effective transition into the twenty-first century. This effort to meet the changes, uncertainties, and challenges of the future is the new Airland Battle-Future (ALB-F) concept. The concept is still evolving as the Army planners and leaders attempt to clarify the future national military strategy employing a smaller constrained force to achieve our national interests and our national security objectives. This small Army force will become more strategically oriented and will operate in roles across the operational continuum--low to mid to high intensity conflict.

The focus of the evolving ALB-F concept is the Corps - where the highest tactical and the lowest operational levels of war meet. ALB-F concept emphasis is on the operational side of the equation. The Corps will operate as part of a joint force or a coalition in combined operations. ALB-F concept uses an umbrella approach across the seven battlefield operating systems to decide future change in doctrine, force structure, training, materiel development and leadership development to support this evolution of ALB-F doctrine. ALB-F also emphasizes our ability to capitalize on affordable technological opportunities and breakthroughs.

With the focus of the concept at the Corps level, it becomes imperative that we reexamine, redefine and update the fire support role of Corps Artillery. Preliminary ALB-F concept results suggest that the Corps Artillery will not be just an administrative and logistical headquarters with a mission of apportioning out Field Artillery Brigades to support divisional operations in wartime. Instead, Corps Artillery takes an active, stand-alone role in the destruction and defeat of the enemy force with long-range fires. This will simultaneously expand its already significant role in close support operations.[1]

Corps Artillery, with the long-range capabilities, will be initiating and controlling most or all fire support. Corps Artillery will be decisively engaged similar to a tactical maneuver unit from the initiation of conflict.[2] This engagement probably will occur well before tactical maneuver/ground forces

begin their operations. Additionally, Corps Artillery will be involved in the planning, allocating and executing long-range fires for the Corps Commander.[3]

These are exciting and challenging times for the Field Artillery and Fire Support communities. This enthusiasm must be directed toward preparing to fight and win on the modern battlefield.

This study will attempt to offer some considerations for use in the revision and definition of the new fire support role of Corps Artillery in the evolving ALB-F concept. The analysis consists of three parts: present ALB and the fire support role of Corps Artillery, evolving doctrine and future requirements for Corps Artillery to perform its fire support role, and lastly, a look at an initial fire support role of Corps Artillery that will set the tone for the campaigns and battles. To accomplish this, the study starts with a brief overview of the present ALB doctrine and the fire support role of Corps Artillery in supporting current doctrine. This will establish a starting point for where the Army currently stands with its warfighting doctrine. Next, a brief overview of the evolving ALB-F concept is provided to articulate the implications of the changing role of Corps Artillery. This is followed by some general requirements for updating fire support for Corps Artillery. Finally, an attempt is made to provide some additional input for a how-to-do manual on Operation FireStrike - independent Corps Artillery fires that set the stage for decisive maneuver operations.

The ALB-F concept is still evolving. Research and submission of this paper are based on the best known data as of March 1991. Additionally, the authors did not have access to the final analytical studies and wargames conducted by elements of the US Army Training and Doctrine Command (TRADOC) and supporting contractors. All attempts address the considerations at the Corps level, but information may be provided at lower levels to support critical points.

OVERVIEW OF PRESENT AIRLAND BATTLE DOCTRINE

Over the past ten years the US Army developed ALB doctrine as a framework for the 1980's. It recognizes the importance of the Corps as the warfighting headquarters.[4] This is a vast departure from the previous Active Defense doctrine of the 1970's that stressed the division (Figure 1)[5]. The current ALB doctrine, Field Manual 100-5, dated 1986, describes the Army's approach to generating and applying combat power at the operational and tactical levels of war. It is based on securing or retaining the initiative and exercising it aggressively to do the mission.[6] The object of the operations is to impose our will upon the enemy to achieve our missions.[7] The doctrine is worldwide in application. It builds upon historical and theoretical foundations, and can incorporate new systems and technologies(as observed in the massive buildup in the 1980's).[8]

ALB orients on warfighting in joint and combined environments. Its operational planning builds on decisive objectives. This planning stresses flexibility, the creation of

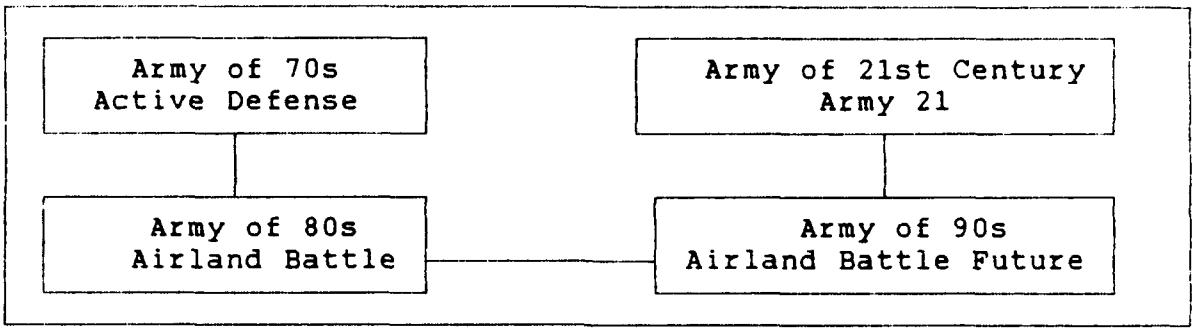

Figure 1. DOCTRINE EVOLUTION

windows of opportunity to fight on friendly terms by taking advantage of enemy vulnerabilities and attacking his center of gravity.[9] Although it considers conflict at the lower end of the operational continuum, the primary orientation is at the mid-intensity to high-intensity conflict levels.[10]

ALB mission focus weighs heavily toward the employment of forward deployed forces and substantial reinforcements from stateside forces against a Soviet type threat.[11] The threat array of forces under this doctrine is Soviet type echelonment of forces in a predictable linear fashion.[12] The doctrine does account for nonlinearity; however, most of the guidance involves conducting campaigns/major operations and fighting battles/engagements with linear orientations.[13] The threat also emphasizes combined operations that includes the use of nuclear, chemical and conventional weapons. Soviet doctrine

envisions fighting on an integrated battlefield. Therefore, Army doctrine anticipates operations in a nuclear/chemical environment.[14]

The battle focus for ALB is on deep, close and rear operations in a mature theater of operations.[15] Deep operations covers activities directed against the enemy forces not in direct contact. This influences the conditions for future close operations and shapes the battlefield. At the operational level, deep operations involve efforts to isolate the enemy and influence when, where and against whom upcoming battles will be fought. Successful deep operations produce the conditions for future victories.[16] It involves deception; deep surveillance and target acquisition and interdiction by air, ground and special operation forces.

Close operations at the operational level are the efforts of corps and divisions to win current battles. Activities included in close operations are maneuver, close combat, indirect fire support, combat, combat service support, and command and control.[17]

Rear operations at the operational level focus on the preparations for the next phase of the campaign or major operation.[18] Critical activities include establishing headquarters, airfields, supply depots, medical facilities, communications, and other administrative and logistical facilities to support combat operations.[19]

ALB doctrine presumes the employment of standard organizations at the corps, division, brigade and battalion levels. Combat service support for these organizations is the key to the success of any operation. Supplies and sustainment materials are pushed forward to units where possible but most depend on supply point distribution.[20]

Ultimate success against the enemy in the ALB environment depends on the Army's ability to fight using four basic tenets: initiative, agility, depth and synchronization.[21]

Initiative denotes setting or changing the conditions of a battle by action. It entails an offensive spirit in the conduct of operations. Applied to the force as a whole, initiative requires a constant effort to force the enemy to conform to friendly operational purpose and tempo while retaining freedom of action. [22]

Agility is the ability of friendly forces to act faster than the enemy. It is the first prerequisite for seizing and holding the initiative. This quickness allows rapid concentration of friendly strengths against enemy weaknesses. These repetitious actions are taken so that when the enemy reacts to one action, another has already taken its place, thereby disrupting his plans and leading to late, uncoordinated and disjointed enemy responses.[23]

Depth is the extension of operations in three dimensions--time, space, and resources. Through the application of depth, commanders obtain the required time to plan, arrange and execute

operations; the space to maneuver effectively; and the resources to accomplish the mission. In seeking operational objectives, large unit commanders observe enemy movements in depth and protect vulnerabilities throughout the theater. With air and naval operations, they employ maneuver, fires and special operations to attack enemy units, facilities and communications throughout the theater. This in turn compels the enemy to fight on friendly terms. Complete realization of depth in operations mandates imagination, boldness, audacity, foresight and decisiveness in leaders at all levels.[24]

Synchronization is the arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point.[25] The corps must make several critical decisions to figure out the conditions, place and time for synchronizing the battlefield activities of corps forces. The deep, close and rear operations must be orchestrated to achieve success. This requires that there be coordination of the combat operating systems to include joint Naval, Air Force and Marine fire support.

CORPS ARTILLERY FIRE SUPPORT FOR AIRLAND BATTLE

On the Airland Battlefield, fire support constitutes most of the combat power available to the Corps Commander. Under ALB doctrine, it is a vital combat system in all phases of deep, close and rear operations.[26] Fire support for ALB centers on the fire support system at the corps level. The Corps Artillery

does this function through planning and coordinating the fire support assets available to the corps. These assets include field artillery cannons, rockets and missiles; mortars; naval gunfire; tactical air; army aviation; electronic warfare; nuclear weapons and chemical weapons.[27]

The Corps Artillery, as part of the Field Artillery organization, has the dual mission of integrating all fire support assets and providing conventional, nuclear and chemical fires.

The objective of fire support at the operational level is to destroy, neutralize or suppress high-payoff targets that influence the outcome of a campaign or major operation. Fire support is effected through a systemic approach. The system has three different areas that work together to give the force commander the fire support he needs to accomplish his mission(s).[28] These three areas are command, control, and communications systems; target acquisition and surveillance and weapons and munitions.

- Command, control and communications systems encompasses facilities, and personnel required to manage fire support and to direct those tactical and technical actions needed to attack targets quickly and effectively.[29]

- Target acquisition and surveillance systems include those devices needed to acquire targets by reconnaissance and surveillance. These systems include many individuals, units and resources on the battlefield that help detect the enemy.[30]

- Weapons and ammunition are the means to deliver destructive firepower on the target according to the commander's battle plan.[31]

Before the development of ALB doctrine, fire support at the operational level had not existed since World War II.[32] Fire support planning at the Corps level now requires the Corps Artillery to concentrate in six areas of concern. These areas include deep operations, rear operations, close operations, counterfire, suppression of enemy air defense and nuclear/chemical planning.[33] Planning at this level necessitates the use of the joint campaign planning process. This process entails high level fire support representing the various services.

Fire support planning for deep operations requires close and full cooperation with the Corps intelligence and operations sections to insure the proper emphasis on deep operations. Deep operations are conducted primarily by fire support means to isolate, prevent freedom of movement and devitalize the enemy in depth. In either offensive or defensive operations, fire support planning is directed at attacking units, fire support means, command, control and communications assets, combat support and combat service support capabilities. Additionally, certain key factors must be considered for deep operations - deception, deep surveillance and target acquisition, interdiction means, and command and control.[34]

Planning fire support for close operations involves timely planning adequate protection of our forces in close and rear battles. This means that the Corps should allocate fire support resources and insure that proper missions are assigned; i.e., direct support, reinforcing, general support, or general support reinforcing. Throughout the planning process certain common guidelines should be observed - mass, flexibility, simplicity, surprise and coordination.[35] In the same way the commander provides for a maneuver reserve force for all portions of the campaign, the Corps Artillery commander must retain control over fire support resources for immediate response to the Corps commander needs.

Planning fire support for rear operations is directed toward assisting friendly units in their freedom of actions to support deep and close operations. Corps Artillery must consider the following for rear operations:

- Fire support incorporation into rear operations plans.
- Planning fires and targets in the rear area.
- Coordination for movement of fire support resources through the rear areas.[36]

Additionally, dedicated fire support for rear operations should be considered when the threat situation dictates and sufficient assets are available.[37]

Joint Chiefs of Staff Publication 1, Department of Defense Dictionary of Military and Associated Terms defines counterfire as "fire intended to destroy or neutralize enemy weapons." The

Corps commander is responsible for counterfire throughout his area of responsibility. The Corps staff assesses the threat to the corps and the best method(s) to defeat them. The Corps commander articulates his intent, assigns missions and responsibilities and allocates resources. Counterfire is not a separate battle. It is tied inseparably to close and deep operations and is part of the total combined arms fight to achieve fire superiority.[38]

Counterfire is a shared responsibility. Planning occurs at both the Corps and Division levels. Counterfire at the Corps level begins with the commander's guidance to the Corps Artillery commander. At this level, decisions are made to meet the specific commander's intent. Given the commander's planning guidance and intent, the Corps Artillery commander and Corps staff develop courses of action and associated organizations for combat to support the intent.[39] Key to counterfire planning for the corps is the ability to formulate a viable decide-detect-deliver methodology. That is, the corps decides what missions will be assigned to what target detectors and shooters; detects the targets; and delivers the necessary ordnance to defeat the targets based on the defeat criteria, target attack guidance and attack system capabilities.[40]

Planning for suppression of enemy air defense (SEAD) ensures that the Corps can influence the close and rear operations and add depth to the battlefield by allowing Army aviation, and sister services air platforms the ability to provide fire

support. Additionally, the availability of fire support from air assets gives the corps commander full combat potential. Planning for SEAD operations requires synchronization of fire support elements to include members of the joint and combined teams to insure maximum effectiveness. Detailed planning and precise timing are essential. To maximize aircraft survivability, the Army and Air Force have developed Joint-SEAD (J-SEAD) operations. Most of SEAD operations conducted at corps and division will be a joint venture. Corps campaign J-SEAD operations are preplanned. The Corps Artillery through its fire support element (FSE) directs and coordinates SEAD operations. All the fire support means as well as the intelligence gathering and electronic warfare capabilities participate. The FSE integrates the J-SEAD campaign at the Corps level. The targeting of enemy air defense assets is conducted within the framework of the decide-detect-deliver methodology previously mentioned for counterfire.[41]

Nuclear weapon planning is similar to those actions for conventional fire support for ALB. A few procedures and techniques are unique. The Corps commander must decide the suitability for use of nuclear weapons by weighing nuclear versus conventional weapons to get required results, recognizing collateral risks, considering the enemy response and determining the effect of delay or denial of use. Nuclear weapons, unlike conventional weapons, are short in quantity. Employment at Corps

level and below influences a decision at the operational level on the battlefield. The Corps Artillery and the Corps staffs plan the employment and integration of nuclear weapons.[42]

The Corps Artillery exercises its responsibility for coordinating fire support by applying the four tenets of ALB - initiative, agility, depth and synchronization - that insure the whole fire support system accomplishes its essential tasks. These tasks are the fundamental requirements the fire support system must fulfill to destroy, neutralize or suppress the enemy. These tasks take the planning process to culmination. Coordination requirements consist of four basic fire support tasks: support forces in contact, support the force commander's battle plan, synchronize fire support and sustain fire support.[43] The four basic tasks unify the fire support system and unite the fire support resources. These tasks do not alter or replace the traditional missions, roles and operations of the various fire support assets. But, they provide a common point of departure for an operationally unified fire support system.[44] A brief description of each task follows:

Support forces in contact: The ability to respond to forces engaged with the enemy is necessary to accomplish this task. This responsiveness includes support from ground and air maneuver forces, naval gunfire and air forces flying in support of ground operations. This task enhances the survivability of our forces and the freedom of maneuver. The Corps Artillery coordinates

field artillery and close air to support forces in contact.[45] This involves allocating resources such as Field Artillery Brigades to support subordinate unit operations.

Support the force commander battle plan: The performance of this task allows the force commander to influence the battle with firepower. It gives him the means to attack designated high payoff targets whose destruction, neutralization or suppression will be most useful to the success of the mission. The Corps Artillery responds to the force commander's plan through timely and accurate fire support.[46]

Synchronize fire support: This task, besides being a requirement for fire support coordination, is also a tenet of Airland Battle. It is the arrangement of coordinated efforts in time, space and purpose to produce the most effective fires. As is apparent, synchronization is a process and a result. The Corps Artillery synchronizes the fire support and that provides the correct attack means delivered on the right target at the right time. Not only must synchronization occur within the fire support system, it must occur with the other battlefield operating systems.[47]

Sustain fire support: This task ensures the survivability of the entire fire support system. It involves the logistical and administrative actions necessary to insure that fire support assets are available to support the force commander. Corps

Artillery is concerned mainly with those assets assigned to the Corps, yet, policies and directives affect fire support at lower levels.[48]

OVERVIEW OF AIRLAND BATTLE--FUTURE

As mentioned early, there have been some unprecedented changes in the world over the past year. These changes have caught our Department of Defense in the midst of some dramatic alterations in response to these uncertain and ambiguous times.

Overall national military strategy is evolving in responses to these events. Based on a reduced threat of nuclear and global high-intensity warfare, the United Stats will face challenges in an ever increasing complex, volatile and unpredictable world - with challenges to our national interest and security becoming more diffuse and complex. Regional instability, terrorism, drug trafficking and proliferation of nuclear and chemical weapons to third world countries must be considered when shaping the US Army to meet the challenges in the next 10-15 years.[49] (Figure 2)[50]

During January 1990, the Army Chief of Staff defined the thrust of continuing evolution by promulgating strategic roles for the Army as we proceed through the end of this century into the next one. The strategic roles include:

- Providing forward-deployed ground forces for deterrence, sustained land combat and conflict termination in areas of vital interest.

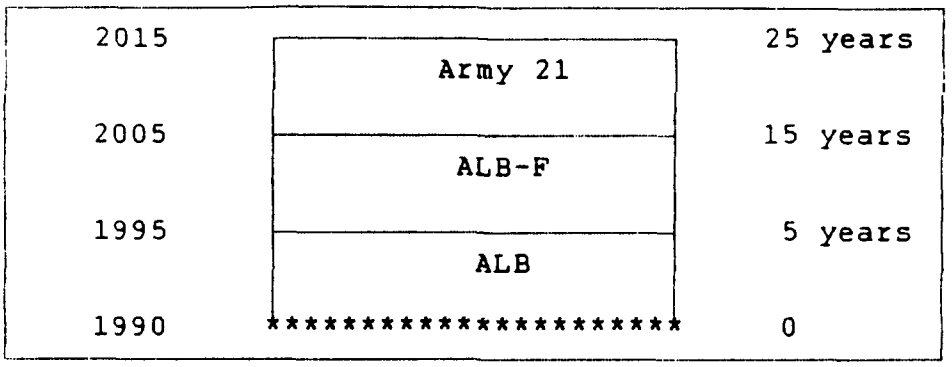

Figure 2. AIRLAND BATTLE DOCTRINE

- Maintaining combat-ready ground forces - heavy, light and special operations - in CONUS for immediate contingencies worldwide.

- Maintaining forces in CONUS capable of reinforcing *forward-deployed and contingency forces.*

- Participating in disaster relief, emergency assistance and interdiction of illicit drug traffic.

- Providing support to allied and friendly nations through peacekeeping and security assistance.[31]

The Army has made a conceptual transition from forward deployed-forward defense to forward deployed-forward presence. The primary mission of the US Army will change to the projection of land combat power from CONUS and from our forward-deployed forces when possible. This establishes an increasing requirement for the Army to be prepared to respond to a broad range of short notice contingency deployments. This trend requires forces that are deployable, versatile and lethal. The shift in orientation and mission is a fundamental change for the Army that has

implications across the entire force, to include our warfighting doctrine, training, materiel, organization and leader development.[52]

As the Army moves through the 1990's, it will confront a security environment that is demanding and dangerous and must do so in a time of limited and constrained defense resources, money and people. This change in the way we approach this new orientation is the evolving ALB-F Concept. The evolution of our present ALB doctrine will met future global environments and expand to include new combat and noncombat missions in support of Unified and Specified Commands. ALB-F focuses on the employment of the Army as the land component of US military power. Additionally, this concept deals with the operational level of war on a nonlinear type of battlefield.[53]

As is true with ALB, ALB-F orients on warfighting in a joint and combined environment. ALB-F carries the doctrine further - across the operational continuum. It expands the orientation to incorporate operations involving civilian government agencies, low-intensity conflict, noncombat missions and coalition warfare. ALB-F places increased emphasis on the operational level of war and provides more focus on the linkage to the strategic level of war upon which all military operations originate.[54]

ALB-F mission focus builds on ALB warfighting theory but envisions future operations beginning at home station for most forces. It does account for those forward-deployed forces but the prime emphasis is on force projection from stateside bases

with limited overseas bases.[55] The operation envisions deployment of forces followed by employment against enemy forces that are region specific and are close to parity with our forces. This concept does recognize the possible linearity of the battlefield but envisions and accounts for nonlinear operations. Although this concept is not geared to nuclear doctrine that accounts for friendly forces fighting outnumbered, it considers the possibilities as more nuclear and chemical weapons are proliferated to third world countries.[56]

ALB focuses on deep, close and rear operations in a mature theater with a primary defensive context. ALB-F concentrates on offensive operations to gain and maintain initiative, respond early and envisions a more homogeneous blending of deep and close operations. Most operations are expected in immature theaters with the possibility of forced entry.[57]

ALB-F uses tailoring of forces to mission as a necessary first consideration. Much effort will be placed on reconnaissance, surveillance and target acquisition forces.[58] Under ALB-F, the combat service support commander will become more involved in the tactical decision process. Unit distribution, which anticipates requirements and pushes support forward, will replace supply point distribution.[59]

ALB-F will recognize deep operations but refines the concept. Deep operations become a predominant task at the Corps level while, at the Division and below, it is part of an integrated close battle at extended ranges.[60]

As with ALB, ALB-F's ultimate success depends on the four basic tenets--initiative, agility, depth and synchronization. The vast number of task forces and battlefield environments expand the magnitude of initiative athwart the levels of war and operational continuum. Agility at the strategic, operational and tactical levels, including the now very important subset of strategic, operational and tactical mobility, becomes essential for a force projection strategy. Gaining and maintaining the initiative early in any operation is essential to success. When using ALB-F concepts the depth of the battlefield increases the complexity and importance of synchronization activities.[61]

Future battlefields will be characterized by jointness and mostly combined operations with allies. The Corps will operate in an area which will incorporate hundreds of kilometers divided into zones dominated by different types of military activities.[62] A typical zone is depicted in Figure 3.[63] The Corps will operate in the time and three dimensional space and focus on the enemy, not terrain.[64]

Under ALB-F operational concepts, a Corps expects to operate as follows in any area and through all the operational continuum.[65]

- Corps commander decides how to fight the enemy.
- Sensors and intelligence systems locate, acquire and target the enemy.

- Reconnaissance is employed in the event sensors fail.

- Long range fires and aviation assets set the condition for campaigns and battles.

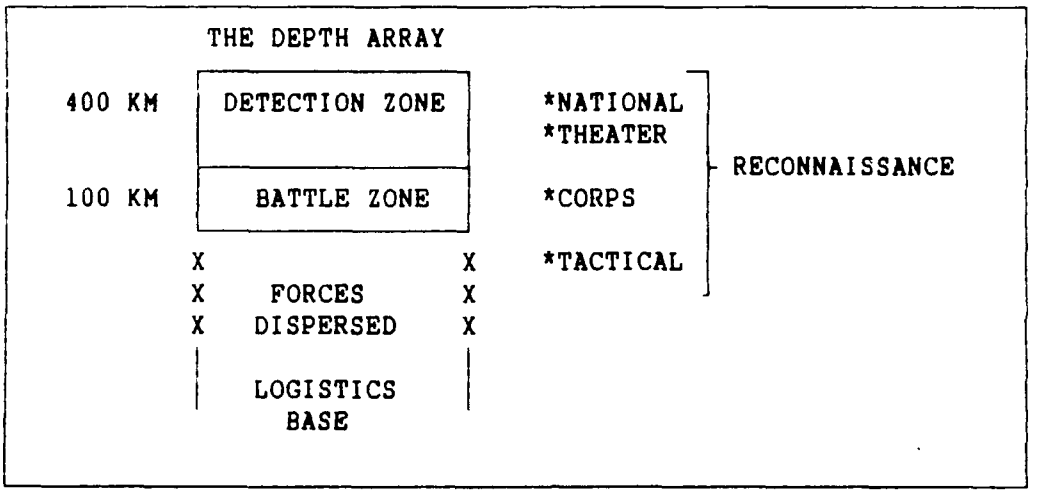

FIGURE 3. ZONES

- Maneuver forces are used with fires to produce decisive results.

- Task organized combat service support forces provide logistics.[66]

TRADOC, charged with the two important functions of training today's forces and designing the Army of the future, posed that under the operational concepts the Corps would want to use a cyclic approach as depicted in Figure 4.[67] The scenario wargamers categorize this cycle as "detect, fires, maneuver, and reconstitute."[68] This cycle led to the development of the four stages: Figure 5[69]

- Detection-Preparation.

- Establishing conditions for decisive operations.

- Decisive operations.

- Reconstitution.

Detection-preparation is a continuous process and is primarily the Corps' responsibility. The Corps takes advantage of strategic and operational level intelligence system to collect information and verify enemy formations, targets and activities. During this stage the Corps provides for the security of the forces. This could involve dispersion of forces within the zone. The most important outcome of this stage is the Corps commander's decision on a course of action.[70]

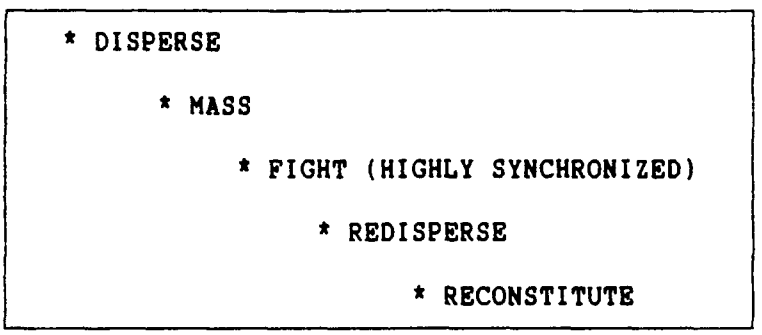

FIGURE 4. BATTLEFIELD CYCLE

After the commander selects a course of action, he then goes about establishing conditions for decisive operations. The Corps will employ tactical air, the Army tactical missile system (ATACMS), attack helicopters and long range artillery systems to separate enemy forces in time and space, reduce enemy numbers, and set conditions for the maneuver forces. Maintaining the initiative and varying the pace and denying the enemy his goals will allow the Corps to dictate the timing for the next stage.[71]

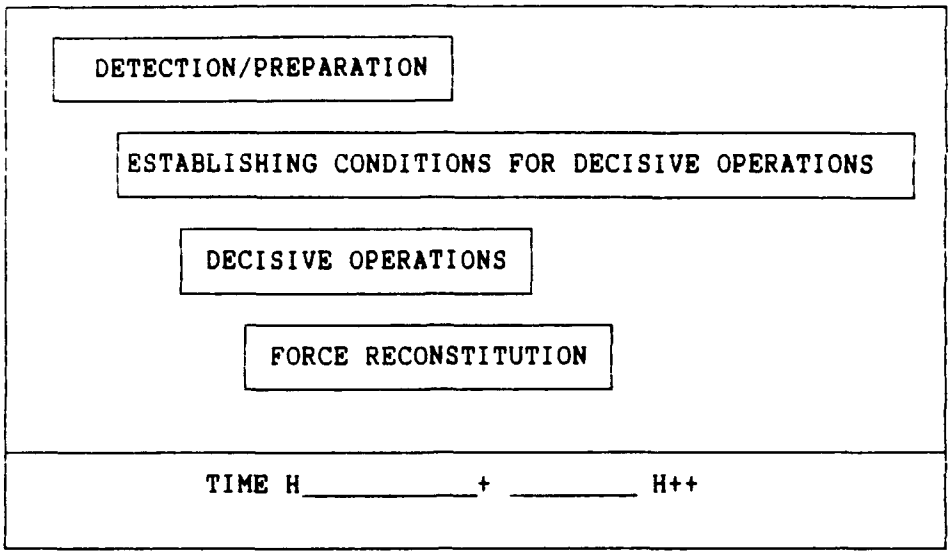

FIGURE 5. AIRLAND BATTLE-FUTURE STAGES

The next stage is the decisive operations stage where the focus remains at the operational level. The Corps engages maneuver forces supported by fires at a time and place under friendly conditions that will have decisive results. This maneuver gains positional advantage and destroys completely the enemy forces. Additionally, lower level commanders must clearly understand the corps commander's intent and not get bogged down in non-productive tactical battles.[72]

The fourth and final stage is reconstitution. Having depleted some part of the operational force in the third stage, the force must be restored, as close as possible, to its full capability within a prescribed time table. The force must disperse and receive fuel, ammunition and other supplies.

Minimum essential maintenance will occur to return equipment to sustained operation levels. Units prepare for future operations and the cycle begins again.[73]

This concept and the way we intend to fight on the future battlefield have a series of implications based on the mission of creating a versatile, deployable and lethal Army. These implications must be examined in light of our existing doctrine, training, organization, material and leader development. A few key challenges and alternatives in each of these areas are:[74]

- Doctrine Implications. The principles of war and the four basic tenets of ALB establish the foundation of our future doctrine. Actions needed:[75]

  -- Expand the operational continuum.

  -- Describe how we will project land power through contingency operations throughout possible areas of conflict.

  -- Emphasize nonlinear maneuver warfare as a vital companion of linearity.

  -- Refine operational art and campaign planning.

  -- Continue joint/combined procedure development.

  -- Address and emphasize the criticality of space based systems to enhance ground operations.

- Training Implications. Field Manual 25-100 remains valid. Actions needed:[76]

  -- Increase joint/combined training exercises for units and staffs--more operational level of war simulations.

-- Accustom our leaders and staffs to flexible and less structured linear battlefields.

-- Expand participation in the combat training centers and battle command training programs.

-- Increase leaders and soldiers knowledge of possible opposing force theories, operational art, tactics and techniques and weapon systems. Additionally, leaders must understand the culture and value system of potential allies and enemy nations.

-- Emphasize peacetime, low key operations. In some conflict/instances, military strength will be weighted more toward support than combat.

- Materiel Implications. Requirements to support the ALB-F concept must be geared toward taking advantage of existing technological opportunities and breakthroughs. Cost will play a major role in the next few years. Needed actions are:[77]

-- Emphasize long-range intelligence and accurate long-range weapons.

-- Fuse reconnaissance intelligence and target acquisition early, at depth and quickly distribute information.

-- Improve command, control and communications.

-- Increase strategic deployability without sacrificing lethality.

- Leader Development Implications. Current leader development remains valid. Enhancements needed:[78]

-- Coincide assignments, training and self-development with changing doctrine and technology.

-- Senior officers need broad backgrounds with joint service experience.

-- Develop an institutional climate that supports and underwrites risk taking--and not just successful risk taking.

-- Emphasize that nonlinear battle will increase the number of stress-related difficulties than the structured linear battle.

- Organization Implications. The trend toward a smaller Army, more compact, deployable and mobile units allows the Army to accomplish its changing roles and missions. Needed actions:[79]

-- Provide for ability to tailor Corps.

-- Increase leader to led ratio.

-- Provide support to fighting commander.

-- Support from rear to front.

-- Create more agile and mobile forces.

-- Increase the number of long-range fires.

-- Increase target acquisition/surveillance capabilities.

-- Increase long-range communications.

IMPLICATIONS AND CHALLENGES OF CORPS LEVEL FIRE SUPPORT FOR AIRLAND BATTLE-FUTURE

A careful analysis of the ALB-F concept clearly indicates that there are distinct implications which require changes in how we will effect Corps level fire support. These factors may provide some positive aspects to our ability to adequate support

or they may offer some monumental challenges. This section will present some of those key implications and delineate factors which place requirements for changes in fire support doctrine, training, force structure, materiel and leader development.

These implications will be examined applying the same format we used in articulating Corps Artillery fire support for ALB doctrine--factors/trends affecting the objectives of fire support, the fire support system and the Corps Artillery role in planning and coordinating fire support. An important point that must be kept in mind is that fire support is not a stand alone battlefield operating system (BOS). The implications may require changes in the other BOS systems that complement fire support.[80]

The objective of fire support at the operational level will not change under ALB-F. It will, however, take an increased importance in the destruction, neutralization and suppression of high payoff targets. Emphasis will be on the destruction of enemy forces.[81] Fire support will not be successful if it does not destroy sufficient numbers of enemy forces to permit all stages of ALB-F to occur as set forth by the Corps commander's intent. As Figure 5, Stages of ALB-F indicates, fire support will be continuous and support all stages. ALB-F also suggests that massing of fire support assets will produce the high payoff value needed to achieve success.[82]

ALB-F has produced several implications for the fire support system: command, control and communications; target acquisition; and weapons and munitions. The underlying characteristics of the entire system are that it needs to be deployable, lethal and versatile.

In the command, control, and communications part of the system, ALB-F demands that a better system for planning, coordinating and integrating all fire support functions and means. Command elements need to be more versatile and agile. Additionally, communications must be flexible, long-ranged and survivable. The system must network with the Army Tactical Command and Control System, the maneuver support system and other joint and allied systems. Information processing must be a feature of the system for integration of field artillery, mortar, naval gunfire, Air Force, Army and Navy Air and electronic warfare assets.[33]

Stage One of ALB-F requires that we gain the initiative early and control the battle. Early integration of joint reconnaissance and air power is necessary to gain that initiative. Early location and attack of critical deep targets enhances operational flexibility. Target acquisition, the second part of the fire support system, requires more technologically advanced RISTA systems which can network with national, joint and automated tactical data/command/control systems. These systems must be capable of acquiring, locating and swiftly processing targets throughout the Corps zone for attack by fire support

means. The acquisition systems must be passive and survivable/active. They must have downlinks directly to fire support means.[84] Unmanned aerial vehicles (UAV) are needed to supplement other RISTA systems.[85] These UAVs are required to penetrate enemy air space, search battlefield areas inaccessible to other collection systems, detect and locate targets and provide data to decision makers and weapons systems in time to support the decide-detect-deliver process. These UAVs need to provide near real time accurate answers for both deep and close operations. UAVs can also provide an over-the-hill capability to acquire and classify targets.[86]

The third part of the fire support system, weapons and munitions, has important implications in ALB-F. They must be capable of engaging the enemy accurately and lethally at great ranges with organic Army weapon systems. The missions envisioned for fire support dictate that artillery assets of the Corps and divisions be actively engaged virtually all the time.[87] Indirect fires (air and ground) will become more important and play a primary role in combat operations. Concentration and application of long-range attack systems at Corps level facilitate operational success. It is critical that our weapons and munitions keep pace with our ability to acquire targets throughout the Corps zone.

Fire support and weapons have significant challenges of being on-time and accurate.[88] There will be a mixture of cannon and rocket/missile units at the Corps level field

artillery brigades with the preponderance being rocket/missile. Cannon systems need to be more lethal with increased rates of fire, increased range, increased accuracy/precision, on board fire control systems and increased responsiveness to maneuver. The cannon system also needs to be more survivable, mobile, easily maintained and manpower efficient.[89]

The rocket/missile system needs to have improved deployability, mobility and accuracy. The range of the system needs to be commensurate with the Corps zone, with improved crew automated efficiency and capable of real time interface with target acquisition and surveillance systems, position location systems and battle damage assessment feedback controls.[90]

Inherent to the implied advances in weapon systems is the requirement for improved munitions. ALB-F implies that our future munitions have longer ranges and more lethality. There is also a need to take advantage of smart munitions and their fire and forget capabilities. Weapons and munitions need to be improved as a system to insure compatibility of developmental efforts in both.[91]

When we examine the fire support planning role of Corps Artillery for ALB-F, it becomes clear that planning will encompass two major areas: long-range fires and close support fires.[92] The six areas associated with ALB will be consolidated into these two areas. Long-range fires support planning will include deep fires, counterfire, suppression of enemy air defense and nuclear/chemical fire planning. Close

support fires will include counterfire, suppression of enemy air defense, rear area fires and nuclear/chemical fire planning. Although little or no nuclear/chemical use is anticipated, the planning capability is needed.[93]

Long-range fires support planning will be continuous and support all four stages of ALB-F. Specifically, they will support the first two stages. Close support fire support planning is geared specifically to support Stage 3, Decisive Operations. Inherent in the close support fire planning is the plan for allocating and providing fire support assets needed at the Division level to support maneuver operations. Planning for both operations requires flexibility and versatility to provide long-range and close support fires simultaneously. At the Corps Artillery level, fire support planning will be centralized and execution at the field artillery brigade and division levels will be decentralized. It is important that commanders at all levels have a clear understanding of the Corps commander's intent. Therefore, the Corps staff and Corps artillery staff interface takes on a more important dimension. Campaign success depends on how well that interface happens.[94]

The fire support coordination role of Corps artillery will change under ALB-F. The Corps Artillery commander now becomes the focal point for long-range fires in response to better intelligence and target acquisition.[95]

The increased importance of supporting the force commander's plan with deep fires gives the Corps Artillery commander a maneuver type mission which increases the role of the Corps Artillery. No longer will the Corps Artillery be just an allocator of field artillery brigades in support of division operations. He must retain the ability to influence fire support from deep battle through the close battle. In ALB-F, the support of units in contact has a direct correlation to the Corps commander's intent and the operational level of conflict.[36]

The task of sustaining fire support will require the Corps artillery to be more involved in the logistical and administrative aspects of the subordinate field artillery brigades. Priority of support will be a key factor and the Corps Artillery must insure that this support equals or exceeds the support to the maneuver units. An added factor to sustaining the force is the requirement for the forces to survive in order to support. Corps artillery must now be prepared to articulate what if any maneuver forces are needed to protect and secure critical and vulnerable fire support assets.[37]

FIRE SUPPORT REQUIREMENTS FOR CORPS ARTILLERY IN ALB-F

We have seen some dramatic changes in the Army's conceptual forecast of going from ALB to ALB-F. TRADOC is involved fully in determining what changes are necessary in our doctrine, training, force structure, materiel, and leader development to the evolution of ALB doctrine.[38] Concurrently, the two TRADOC Integrating Centers are engaged in activities to determine what

changes are necessary in their proponent areas (Battlefield Mission Areas) to support the evolving doctrine. That is, each Battlefield Operating System is analyzing what changes they need to make in light of the ALB-F concept, fiscal constraints, implications/challenges and the Chief of Staff's, Army Imperatives.[99] Presently, fire support is being examined at the operational (Corps Artillery) level to determine the required changes for Corps Artillery to assume its new role.

One thing we must keep in mind is that the broad principles of fire support at the operational level will not change. Specific requirements dictate some reexamination, redefinition and update of techniques and procedures, accompanied by doctrine, training, materiel and force structure changes.[100] The intent is to provide changes that will effect the ability of the Army to react strategically to worldwide contingencies.

This section will look at some of those changes considering factors/trends depicted in Figure 6. Fire support at the operational level requires some of the following changes:

- Doctrine Requirements: The four tenets of today's ALB doctrine will remain the key to guiding how we conduct future combat operations. Revised doctrine must reflect operational and tactical changes. We need to describe how Corps Artillery fire support missions will change. A description of how the battlefield can be shaped by fire support needs a lot of emphasis--especially how fire support executes in a nonlinear environment. Doctrine on how to describe the commander's intent

for fire support is required. The requirements and techniques for better target acquisition/fusion/dissemination to executing units are required. Techniques on determining how best to tailor fire support assets to meet the commander's intent are needed. Joint and combined fire support doctrine and techniques will benefit our warfighting capabilities. More doctrine on heavy-light operations is required to account for the difference in equipment and interoperability. More doctrine is needed on how fire support operates in a low-intensity environment.

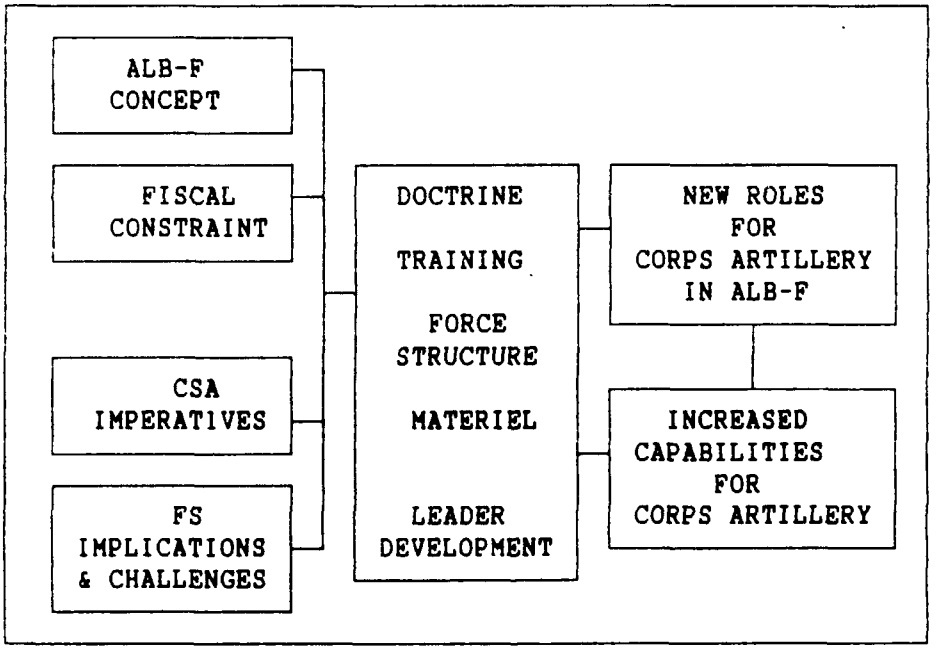

FIGURE 5. REQUIREMENTS FOR CHANGES IN ROLES AND CAPABILITIES

- Training Requirements: ALB-F recognizes the increasing need for effective fire support capabilities for conflict and peacetime competition as well as improved warfighting capabilities and techniques for war. Fire support organizations

must be trained in tactics and operational art refined to support the evolving concept. This training should lead to better execution of the roles of Corps Artillery and subordinate units. Additional training at the Combat Training Centers (CTC) is needed. More joint and combined training opportunities will facilitate operations in contingency missions. Increased training on massing fires and integrating these with target acquisition and surveillance assets must be established. More battle command training programs (BCTP) and corps level command post exercises (CPX) are critical.[101] Leader training in battle management, command and control, and communications networks will help with the increased communications and fusing of information and intelligence.

- Force Structure Requirements: No attempts will be made to provide a specific number of units needed to support ALB-F. However, there are some specific needs for fire support to accomplish its role. Fire support must be ready to employ and mass fires of all systems to support operations across the entire continuum of conflict anywhere in the world. Some required changes include: The right mix of multiple launch rocket systems (MLRS) and cannons (for both mechanized and light forces) with a greater percentage of Corps Artillery fires being MLRS-ATACMS; more target acquisition assets that interface with position navigation systems and provide real time target damage assessments; fielding of AFTADS with the priority to first to fight; phasing out manpower intensive systems; fielding of the

Advanced Field Artillery Systems (AFAS) and the fielding of logistics resupply vehicles to handle the high volume of ammunition required by the field artillery brigades.[102]

- Materiel Requirements: The materiel needed to accomplish the battlefield requirements at the Corps level depends on new developments and exploitation of feasible existing technologies. These materiel needs will satisfy demands for increases in volume of fire, accuracy of fires, range of fires and control of fires.[103] As mentioned earlier, the underlying characteristics are deployability, versatility, and lethality. Some identified materiel requirements include: improving the Firefinder Radar and fielding of an UAV;[104] fielding of AFATDS; fielding of the Guardrail Common Sensor; accelerated fielding of the Howitzer Improvement Program (155mm Howitzer); increased fielding of ATACMS; fielding of AFAS; fielding of Sense and Destroy Armor (SADARM) smart munitions; fielding of MLRS terminally guided warhead; development and fielding of Tacit Rainbow (mini-cruise missile), fielding of the Field Artillery Resupply Vehicle and fielding of Palletized Load System (PLS).[105]

- Leader Development: General Carl E. Vuono states that, "Our most enduring legacy to the future is the development of legions of Artillery leaders--sergeants and officers who stand at the pinnacle of their profession."[106] This means that the evolving changes to ALB doctrine and the dynamics of an ever changing world situation will not bring success in the future unless we recruit, train, develop and retain the most capable

leaders. The training process should start early in teaching leaders risk taking, boldness and audacity. Leader development at the Corps level should include: participating in more joint and combined exercises; participating in battle command training programs and seeking joint and combined assignments.[107] Participating in training exercises at the combat training centers have proven to be the best training ground next to actual combat experience.

When these changes are implemented fully, they will translate into increased capabilities at the Corps Artillery level. These new capabilities provide a basis to delineate corps artillery's new role in support of ALB-F. The after action reviews of Operations Desert Shield/Desert Storm will provide some additional objective analytical data on what changes are required in the systems at the Corps level. Most importantly, data will come from two Corps--one with a light-heavy task force organization and the other with a heavy task force organization. Additionally, the coalition operations should provide some keen insights. The collection of information from all three sources will provide some invaluable data on CONUS-based contingency operations and on forward-deployed presence perspectives.

OPERATION FIRESTRIKE-CONCEPTUAL ROLE OF CORPS ARTILLERY IN AIRLAND BATTLE FUTURE

Now that we have transition out of present ALB doctrine to ALB-F, delineating what is generally necessary at the Corps artillery level to support this evolving doctrine, let us now

look at an application of Corps Artillery's new role. Operations Desert Shield/Desert Storm will serve as the lead-in to this application.

A preliminary look at Operations Desert Shield/Desert Storm would lead one to equate it to ALB-F. It appears that the campaign followed the stages of ALB-F. Stage One--Detection/Preparation--was accomplished during Desert Shield and the first four weeks of Desert Storm. Stage Two--Establishing Conditions for Decisive Operations--occurred during the initiation of Desert Storm to the integration of ground maneuver portion of the overall campaign. The war ended with Stage Three--Decisive Maneuver operations.

Stages One and Two were critical to the operations as the intelligence, surveillance, and target acquisition assets provided real time information. In addition to those, ground reconnaissance elements were used to verify certain aspects which might have been used as deception measures. Also essential to these operations was the fact that they were joint and combined with coalition/allied forces working in ground, air and sea operations.

These operations provide the laboratory to examine the tenets of ALB and the additional requirements of deployability, versatility, and lethality. All forces except for a few coalition forces were deployed to the theater. The manner in which they operated clearly articulates their versatility. Without a doubt, the manner in which the high technological

systems destroyed the enemy forces pointed out the lethality of the weapons and munitions. The historical four tenets of conflict again facilitated the success of our forces. The Corps Artillery's support of the two American Corps would lead one to believe that the objectives of fire support were those required for ALB-F. The fire support system operated at its fullest capabilities and the new role of Corps Artillery in the planning and coordination of fire support approximated those expressed in ALB-F.

Operations Desert Shield and Desert Storm provide an excellent vehicle to conceptualize how the Corps Artillery would go about conducting a special (without dependency on maneuver) mission to destroy enemy forces by fires-called FireStrike. FireStrike is presently a concept the Field Artillery School is working on that is a "carefully planned massing of fires against leading elements of an enemy force. It is directed against different target sets in a threat array."[108] This threat array includes combat, combat support and service support types of enemy assets.

FireStrike is a mission Corps Artillery would undertake based on the Corps commander's concept of the operation and his intent for the execution of the Corps' campaign under ALB-F doctrine. It is a detailed fire support plan/operation that links RISTA assets to fire support means early in the campaign.

Before we go any further, some crucial assumptions need to be made. Without getting into specific systems, we assume that the implications for improving the fire support system with the required changes to C3, target acquisition and surveillance and weapons and munitions have been met. Significant technological opportunities have been realized.[109]

The Corps Artillery is tailored to meet the mission and contains the requisite number of cannon, rocket and missile units. Further, tactical air and Army attack helicopters are corps fire support assets.

As the Corps is preparing to deploy to the theater of operations, the Corps Artillery commander ensures that the initial Corps Artillery contingent is prepared to begin immediately target acquisition and targeting efforts with the Corps staff. Based on the Corps commander's initial concept of operation, the Corps Artillery commander will program fire support assets for deployment.

During the initial planning phase, the Corps commander has directed that FireStrike operations have high priority within the Corps. This requires some detailed planning by the Corps Artillery and Corps staff to ensure that Corps plans reflect the priority. Furthermore, deploying maneuver elements have been given instruction to be prepared to provide security forces for protection of fire support units. The Corps Artillery staff,

field artillery brigade staffs and subordinate battalion staffs must plan for such security support. Additionally, aviation assets have been alerted for security missions.

Once all elements have been deployed to the theater, the fire support C3 system integrates with the intelligence and target acquisition systems to insure that the targeting process is effected to meet the Corps commander's intent and that subordinated elements can communicate and execute fire support missions with on order missions to provide close support.

Throughout these preparations, the Corps Artillery is planning and preparing to execute its fire support role in support of the corps commander's campaign plan. The corps artillery commander's ability to sustain his fire support assets and synchronize fires during Stage two--FireStrike--will determine when maneuver forces are committed for Stage Three--Decisive Operations.

FireStrike operations will add a new dimension to the manner in which the corps executes its mission. There will be a different relationship between fires and maneuver.[110] Under the corps commander's campaign, fires will set conditions for combat maneuver operations. With the possibility of security missions to fire support units, fire support may operate with maneuver, however, on the other hand, fire support could operate independent of maneuver.

As Operation Desert Storm clearly points out, fire support operations (using all fire support means) set the stage for decisive maneuver operations that only took approximately 100 hours to complete. One thing was clear about fires in Stage Two of ALB-F--they continued until the entire campaign was completed or successfully terminated. This places added responsibilities and challenges on the Corps Artillery and subordinate field artillery brigades and other fire support commanders to sustain fire support assets. These situations force the commanders to face their tasks similar to the maneuver commander in land management and maneuvering fires to destroy enemy forces. It requires commanders to exercise the tenets of conflict to the fullest to achieve success on the battlefield with minimum loss of personnel and equipment.

CONCLUSION AND RECOMMENDATION

The U.S. Army has maintained a warfighting doctrine for the past ten years that accounts very well for our armed responses to possible regional and global conflicts. However, world changes over the past year mandate that we take a comprehensive appraisal of what we need to face these uncertainties and challenges to a new world order. Key to our requirement is the protection of American national interest and maintenance of national security.

In anticipating the need for a warfighting doctrine revision, the U.S. Army TRADOC begins on an effort to project the present ALB doctrine into concepts which will embrace expected

future changes. This evolving concept is ALB-F. It gives the present doctrine a strategic orientation for the operational level of war.

The threat is diminishing compared to what we have known for the past forty years. Congress is demanding a smaller military force which they feel corresponds to the lessening threat. Moreover, a large military force is also becoming too expensive to maintain. These constraints force the Defense Department to transition U.S. Army forces from a forward-deployed, forward presence to a predominantly CONUS-based contingency force with a small forward force presence. This smaller force demands better deployability, versatility and lethality.

The basic thrust of ALB-F consists of campaigns and operations that will involve four stages in a cyclic manner. These four stages are: detection/preparation, establishing conditions for decisive operations, decisive operations and reconstitution. To execute this new concept, increasing dependency is placed on the intelligence system, combat service support system and the fire support system.

To meet the requirements of the evolving concept, fire support at the Corps level is being reexamined, redefined and updated to meet future needs. Corps Artillery is the focal point of the new fire support changes. Preliminary wargame results and analysis appear to point at changes to the Corps fire support system anu the role of Corps Artillery in providing fire support to meet the Corps campaign plan. ALB-F implies the need for

major improvements in fire support C3, target acquisition and surveillance, and weapons and munitions. These improvements in the fire support system accompany considerations in doctrine, training, force structure, materiel development and leader development. Attendant to these improvements is the need to take full advantage of technological opportunities and breakthroughs. Results of these improvements increase capabilities and change the role of Corps Artillery. This role change assigns the Corps Artillery commander missions similar to those of maneuver commanders.

One of those changes is a conceptual mission--Operation FireStrike. This independent fire support mission establishes the conditions for decisive maneuver operations in a Corps campaign. FireStrike takes advantage of the requirements to improve the fire support system.

From the analysis of the new Corps Artillery role in ALB-F it becomes keenly apparent that the ongoing analysis and updates to fire support are paramount to the successful prosecution of warfighting missions in support of national interest and security. Further exploration, development and adoption of Operation FireStrike as a doctrinal fire support mission are recommended. Additionally, every effort should be made to incorporate immediately Desert Shield/Desert Storm fire support lessons learned into tactics, techniques and procedures.

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